

ABSTRACT

THE VALUE OF EXPRESSION OF E-CADHERIN AND VEGF IMMUNOHISTOCHEMICAL MARKERS IN PROSTATE CARCINOMAS

The second ranking cancer in men, the prostate cancer, and inspite of the various diagnostic markers still found to have metastatic spread after radical prostatectomy. Though Gleason scoring and serum PSA values are available, they are not helpful in knowing the aggressiveness or metastatic tendency of the carcinoma.

E-cadherin, cellular adhesion molecule, whose abnormal expression is associated with progression to higher grades of prostate malignancy.

VEGF, growth factor in the vascular endothelial proliferation and paving the spread of cancer cells, is also found to be increased in expression in cases with more aggressive prostate cancers.

Aim:

This study is done to identify prostatic carcinomas with altered E-cadherin and increased VEGF expression and to correlate them with Gleason score and PSA levels.

Materials and methods:

25 cases of prostate cancer specimens, received during July 2015 to June 2016 in the Department of Pathology, Coimbatore Medical College, Coimbatore, were selected and paraffin embedded formalin fixed sections of the same in coated slides were subjected for immunohistochemical expression with E-cadherin and VEGF antibodies by the peroxidase-antiperoxidase method. Membranous for E-cadherin and cytoplasmic positivity for VEGF were observed based on the staining pattern, strength of staining and population of stained cells.

Results:

Of a total of 109 prostate specimens (2.10%) received during the study period, 23.85% were prostate malignancies, forming 1.48% of all malignant specimens. The mean age of prostate cancer presentation is 70.2 years, mean Gleason score is 7.2 and serum PSA is 353.08, both showing significant correlation (p value <0.05). With increase in Gleason score, PSA also increases.

E-cadherin expression negative in 28% cases and 56% cases showed weak or moderate positivity, indicating a considerable loss of E-cadherin as the lesions are progressing and suspected extra prostatic extension, either absent or weak expression was observed.

VEGF strongly expressed in 48% cases and negative staining in 8% of cases. A p value <0.05 , indicates as degree of malignancy increases, angiogenesis increases.

Correlation between aberrant E-cadherin and increased VEGF expression (p value <0.05), indicates progression of disease, the same also correlating with Gleason scoring.

Conclusion:

To detect extra prostatic extension, without any major symptoms, markers E-cadherin and VEGF, can be used even in minimal tissue samples and anticipate the progression. Still studies are needed to place the next step in therapeutic approach to advanced stages of cancer.

KEYWORDS:

E-cadherin, VEGF, Prostate cancer, extra prostate extension